

### Abstract

A superconducting wire  $[(10)]$  formed of a metal substrate and an overlying superconducting layer  $[(3)]$ , the metal substrate being a textured metal substrate and planarized to have a surface layer extending from a surface thereof to a depth of 300 nm with a crystal axis offset relative to an orientation axis by at most  $25^\circ$  and a surface roughness  $R_{p-v}$  of at most 150 nm, and a method of producing the wire. The surface layer's biaxial texture can be maintained while the substrate can have a surface planarized, and a highly superconductive wire and achieve a method of producing the same can thus be achieved.